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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/040,911	03/18/1998	MICHAEL JOHN GRUNDY	TS7526	2422

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EXAMINER

MEDLEY, MARGARET B

ART UNIT	PAPER NUMBER
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1714

DATE MAILED: 02/12/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/040,911

Examiner

Margaret B. Medley

Applicant(s)

GRUNDY ET AL

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 27 August 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

In view of the decision made by the Board of Patent Appeals and Interferences in Paper No. 13 dated August 27, 2002, prosecution is hereby reopened. New grounds of rejections are set forth below.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 6-8 and 12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 6 (and dependent claim 12) 7 and 8 are indefinite for the "molar ratio A:B is in the range 6:5 to 1:2", which is outside of the range of molar ratio A:B in the range 4:3 to 1:10" of claim 1 from which each depends directly or indirectly.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation

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under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gutierrez et al (Gutierrez) WO 96/01854 combined with Wilson's "Fuel Lubricity".

Gutierrez et al teach and disclose a fuel composition, comprising a middle distillate diesel fuel, note page 20, lines 12-15, and a succinimide dispersant additive comprising a reaction product between (i) a 900-2000 MW hydrocarbyl-substituted succinic acylated agent, and (ii) a polyalkylene polyamine of mixture of polyamines having at least 70% by wt. containing more than 6 N-atoms, more preferably 7 N-atoms or more, e.g., > 8 N-atoms, note page 17, line 17 to page 18, lines 1-5 and 19 to page 19 lines 1-2, page 1, lines 8-17 and page 2, lines 1-10, wherein the reaction product is present in a concentration of preferably 50 to 1500 ppm, note page 20, lines 15-17, the 50 to 1500 ppm additive of patentee encompasses the 10-400 ppm additive of instant claims 9-12, the 40-200 ppm of instant claim 13 and its 500 to 50,000 ppm friction modifiers, note page 22, line 6 encompasses and the 50 to 500 ppm of instant claim 14.

With respect to instant claims 4 and 5 having 3 to 5 nitrogen atoms in its polyamines, Gutierrez clearly teaches that commercial TEPA having three and four nitrogen atoms and commercial PAM having a mixture of ethylene amines where TEPA and pentaethylene hexamine (PEAA) are commercially available and that heavier cuts

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PAM have improved dispersancy when compared to commercial PAM under similar conditions with the same polymer backbones. note the bridging paragraph of pages 3-4 and the first full paragraph of page 4.

Thus the skilled artisan would have been motivated with the teaching of Gutierrez to use a commercial TEPA or commercial PAM containing 3 to 5 nitrogen atoms that correspond to the nitrogen compound of instant claims 4-5 as the polyamine reactant for the dispersant additive if improved dispersancy was not a major concern.

With respect to the molar ratio A:B in the range 4:3 to 1:0 of instant claim 1 and with respect to the molar ratio A:B is in the range 6:5 to 1:2 of instant claims 6-8, Gutierrez teaches that increasing the stoichiometric ratio of amine to polymer raises the amine content, but results in significant levels of free unreacted polyamine which is detrimental to diesel engine and elastomer seal performance, note the first full paragraph of page 17. The artisan working in the art with the teachings of Gutierrez would have been motivated to raise the molar ratio of A:B in the range 4:3 to 1:10 or 6:5 to 1:2 to avoid significant levels of free unreacted polyamine which is detrimental to diesel engine and elastomer seal performance.

With respect to the one step process of instant claims 15 and 16 for admixing the additive to the fuel oil. Gutierrez clearly teaches that the additive is added to the fuel oil. Thus the teachings of Gutierrez render the instant one step process for preparing the instant fuel oil composition obvious. When Gutierrez adds it additive to its fuel oil a fuel oil composition is produced that is the same as the instant claims 15 and 16 of admixing the additive with the fuel oil.

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Gutierrez et al are silent to applicant's teaching to a fuel having 0.2 or less sulfur. It is the Examiner position that the use of low sulfur fuel e.g., 0.2 or less sulfur, would be obvious in view of the teachings of Wilson.

Wilson teaches that it is state of the art knowledge that since October 1993, environmental legislation in the USA has required the sulphur content of diesel fuel for vehicles to be less than 0.05 per cent. It is generally accepted that it is not so much the moral of the sulfur as the loss of the polar oxygenated compounds and polycyclic aromatics, including nitrogen-containing compounds, which is responsible for the reduced boundary lubricating ability of severely refined fuels. Sulphur level is merely a convenient means of measuring the degree of refinement, note page 11, column 1. It would be obvious to the artisan in the art to use the low sulphur diesel fuel of Wilson as the low sulphur diesel fuel of Gutierrez to meet the environment legislation requirement to reduce the fuel sulphur level to 0.05%.

Instant claim 17 is directed to a method of operating a compression-engine comprising introducing into the combustion chambers of said engine the fuel oil composition of claim 1. The fuel composition of Gutierrez is designed to for use in the combustion chamber of a compression-ignition engine. It would be obvious to the artisan in the art to introduce the fuel composition of Gutierrez into the combustion chamber of a compression-ignition engine to extract the energy from the fuel to render instant claim 17 obvious.

The data and results presented in Tables 1-5 of the instant application have been carefully studied. It is noted that Additive A disclosed in Table 1 on page is directed to a

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950 Mn polyisobutenyl succinic anhydride reacted with tetraethylenepentamine (TEPA) in a succination ratio of 1:1:1 prepared by method A, note page 15 at the top. This same additive was used as a representative of the compound of the instant application in Tables 1 and 2. Applicants instant additive appears to be the same commercially produced additive of Gutierrez produced with (TEPA) and is rendered obvious by the teachings of Gutierrez that the succinic additive should be used in a greater ratio than the amines to avoid unreacted amines that are determiner to the diesel engines. It is further noted on record that after a careful study of the instant data and results that when compared to the instant claims that the instant claims are much broader in scope than the data relied on the show unexpected are unobvious results. There are no claims of record directed to the examples, which are relied upon showing the results presented in Tables 2-5.

The previous art rejection made of record is withdrawn in view of the Board Decision in Paper No. 13 dated May 27, 2002.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Margaret B. Medley whose telephone number is 703-308-2518. The examiner can normally be reached on Monday-Friday from 7:30 am to 6:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 703-306-2777. The fax phone numbers for the organization where this application or proceeding is assigned are 703-

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872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

Margaret B. Medley
MARGARET B. MEDLEY
RECEPTIONIST

M. B. medley/mn
February 11, 2003